

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A method of providing  
2 search results in response to an ambiguous search query,  
3 the ambiguous search query including a sequence of  
4 ambiguous information components, the method comprising:  
5 receiving a sequence of ambiguous information  
6 components from a user;  
7 obtaining mapping information that maps the  
8 ambiguous information components to less ambiguous  
9 information components;  
10 using the mapping information and a lexicon, the  
11 lexicon comprising less ambiguous information components  
12 that have been previously processed by a search engine as  
13 search queries, to convert translate the sequence of  
14 ambiguous information components into at least two  
15 corresponding sequences of less ambiguous information  
16 components;  
17 providing the at least two sequences of less  
18 ambiguous information, each of the sequences effectively  
19 being joined by a logical "OR" operation request, as an  
20 input to a the search engine;  
21 obtaining search results from the search engine; and  
22 presenting the search results to the user.

1 Claim 2 (original): The method of claim 1, wherein the  
2 mapping information is based on the configuration of a  
3 standard telephone keypad.

1 Claim 3 (previously presented): The method of claim 1,  
2 wherein the ambiguous information components comprise

3 numbers and the less ambiguous information components  
4 comprise letters.

1 Claim 4 (original): The method of claim 1, wherein each  
2 of the ambiguous information components comprise a single  
3 press of a key and the less ambiguous information  
4 comprises letters that correspond to the key.

1 Claim 5 (original): The method of claim 1, wherein the  
2 ambiguous information components comprise phonemes.

1 Claim 6 (original): The method of claim 5, wherein the  
2 less ambiguous information components comprise  
3 alphanumeric information.

1 Claim 7 (original): The method of claim 1, wherein the  
2 ambiguous information components comprise visual  
3 information.

Claim 8 (canceled)

1 Claim 9 (currently amended): The method of claim 1 8,  
2 wherein the lexicon act of using further comprises using  
3 is a dictionary to help convert the sequence of ambiguous  
4 information components into one or more corresponding  
5 sequences of less ambiguous information components.

Claims 10-13 (canceled)

1 Claim 14 (currently amended): A method of providing  
2 search results in response to an ambiguous search query,  
3 the ambiguous search query including a sequence of  
4 ambiguous information components, the method comprising:  
5 receiving a sequence of ambiguous information  
6 components from a user;  
7 obtaining mapping information that maps the  
8 ambiguous information components to less ambiguous  
9 information components;  
10 using the mapping information to translate the  
11 sequence of ambiguous information components into a  
12 plurality of corresponding sequences of less ambiguous  
13 information components;  
14 determining a subset of the plurality of sequences  
15 of less ambiguous information components by comparing the  
16 plurality of sequences of less ambiguous information  
17 components with terms used in past search queries, stored  
18 in a search query log, that previously have been  
19 processed by the search engine;  
20 providing the subset of sequences of less ambiguous  
21 information components as an input to a search engine;  
22 obtaining search results from the search engine; and  
23 presenting the search results to the user.

1 Claim 15 (currently amended): The method of claim 14 12,  
2 wherein the act of determining comprises using  
3 statistical information about the co-occurrence of the  
4 less ambiguous information components within the  
5 sequence.

1 Claim 16 (currently amended): A method of providing  
2 search results in response to an ambiguous search query,  
3 comprising:

4 receiving a sequence of information components from  
5 a user, each information component corresponding to a key  
6 press;

7 obtaining mapping information that maps each of the  
8 key press information components to a plurality of other  
9 information components, each corresponding to the same  
10 key press;

11 using the mapping information, in combination with a  
12 lexicon, to determine, from the sequence of key press  
13 information components, other sequences of information  
14 components by converting each key press information  
15 component to each of the other information components  
16 that correspond to the key press component, wherein the  
17 lexicon is a list of other sequences of information  
18 components that previously have been processed by a  
19 search engine as search queries;

20 providing one or more of the received sequence and  
21 the other sequences as a search query input to the a  
22 search engine;

23 obtaining search results from the search engine; and  
24 presenting the search results to the user,  
25 wherein the search results include references to Web  
26 page documents.

1 Claim 17 (original): The method of claim 16, wherein the  
2 mapping information is based on the configuration of a  
3 standard telephone keypad.

1 Claim 18 (original): The method of claim 17, wherein the  
2 received information components comprise numbers and the  
3 other information components comprise letters.

1 Claim 19 (original): The method of claim 17, wherein  
2 both the received and other information components  
3 comprise letters.

1 Claim 20 (original): The method of claim 16, wherein the  
2 act of providing comprises providing at least two  
3 sequences to the search engine using a logical "OR"  
4 operations.

Claims 21-25 (canceled)

1 Claim 26 (currently amended): A method of providing  
2 search results to a user in response to an ambiguous  
3 search query, comprising:  
4 receiving at least two number words constituting a  
5 number phrase;  
6 converting translating each number word into one or  
7 more letter words, based on mapping information, in  
8 combination with a lexicon, to generate a plurality of  
9 letter phrases, each of the letter phrases corresponding  
10 to the number phrase, wherein the lexicon is a list of  
11 letter phrases that previously have been processed by the  
12 search engine as search queries;  
13 forming a search query to a search engine wherein  
14 the search query includes at least one of the letter  
15 phrases;

16       obtaining search results from the search engine in  
17    response to the search query; and  
18       providing the search results to a user,  
19       wherein the search results include references to Web  
20    page documents.

1    Claim 27 (previously presented): The method of claim 26,  
2    wherein the providing step comprises providing at least  
3    two of the letter phrases, each of the letter phrases  
4    being effectively joined by a logical "OR" operation  
5    request, as a search query to a search engine

1    Claim 28 (original): The method of claim 26, wherein the  
2    mapping information is based on a standard telephone  
3    keypad.

Claim 29 (canceled)

1    Claim 30 (currently amended): A computer-readable medium  
2    containing one or more instructions for providing search  
3    results in response to an ambiguous search query, the  
4    ambiguous search query including a sequence of ambiguous  
5    information components, the instructions comprising:  
6       receiving a sequence of ambiguous information  
7    components from a user;  
8       obtaining mapping information that maps the  
9    ambiguous information components to less ambiguous  
10   information components;  
11       using the mapping information, in combination with a  
12   lexicon, to convert translate the sequence of ambiguous  
13   information components into at least two corresponding

14 sequences of less ambiguous information components,  
15 wherein the lexicon is a list of sequences of less  
16 ambiguous information components that previously have  
17 been processed by a search engine as search queries;  
18 providing the at least two sequences of less  
19 ambiguous information, each of the sequences effectively  
20 being joined by a logical "OR" operation request, as an  
21 input to the a search engine;  
22 obtaining search results from the search engine; and  
23 presenting the search results to the user.

1 Claim 31 (currently amended): An apparatus for providing  
2 search results in response to an ambiguous search query,  
3 the ambiguous search query including a sequence of  
4 ambiguous information components, comprising:  
5 at least one memory having program instructions; and  
6 at least one processor configured to execute the  
7 program instructions to perform the operations of:  
8 receiving a sequence of ambiguous information  
9 components from a user;  
10 obtaining mapping information that maps the  
11 ambiguous information components to less ambiguous  
12 information components;  
13 using the mapping information , in combination  
14 with a lexicon, to convert ~~translate~~ the sequence of  
15 ambiguous information components into at least two  
16 corresponding sequences of less ambiguous information  
17 components, wherein the lexicon is a list of sequences of  
18 less ambiguous information components that previously  
19 have been processed by a search engine as search queries;  
20 providing the at least two sequences of less  
21 ambiguous information, each of the sequences effectively

22 being joined by a logical "OR" operation request, as an  
23 input to the a search engine;  
24 obtaining search results from the search  
25 engine; and  
26 presenting the search results to the user.

1 Claim 32 (currently amended): An apparatus for providing  
2 search results in response to an ambiguous search query,  
3 the ambiguous search query including a sequence of  
4 ambiguous information components, comprising:  
5 means for receiving a sequence of ambiguous  
6 information components from a user;  
7 means for obtaining mapping information that maps  
8 the ambiguous information components to less ambiguous  
9 information components;  
10 means for using the mapping information, in  
11 combination with a lexicon, to convert translate the  
12 sequence of ambiguous information components into at  
13 least two corresponding sequences of less ambiguous  
14 information components, wherein the lexicon is a list of  
15 sequences of less ambiguous information components that  
16 previously have been processed by a search engine as  
17 search queries;  
18 means for providing the at least two sequences of  
19 less ambiguous information, each of the sequences  
20 effectively being joined by a logical "OR" operation  
21 request, as an input to the a search engine;  
22 means for obtaining search results from the search  
23 engine; and  
24 means for presenting the search results to the user.

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1 Claim 33 (currently amended): The method of claim 1  
2 wherein the act of using the mapping information and the  
3 lexicon to convert ~~translate~~ the sequence of ambiguous  
4 information components into one or more corresponding  
5 sequences of less ambiguous information components ~~uses~~  
6 includes using the mapping information to directly  
7 translate the sequence of ambiguous information  
8 components into one or more corresponding sequences of  
9 less ambiguous information components.

1 Claim 34 (previously presented): The method of claim 1  
2 wherein the ambiguous information components are more  
3 ambiguous than the less ambiguous information components  
4 due to a limited capability of a user input device.

1 Claim 35 (previously presented): The method of claim 1  
2 further comprising looking up search results using an  
3 index including entries, at least one entry including a  
4 sequence of less ambiguous information components mapped  
5 to a set of one or more items.

1 Claim 36 (previously presented): The method of claim 26  
2 wherein the search results provided to the user have been  
3 ranked such that search results corresponding to  
4 documents that include an exact match of at least one of  
5 the letter phrases are provided higher than search  
6 results corresponding to documents that do not include an  
7 exact match of any of the letter phrases.

1 Claim 37 (previously presented): The method of claim 26  
2 wherein the search results exclude search results

3 corresponding to documents that do not include an exact  
4 match of any of the letter phrases.

1 Claim 38 (currently amended): A method of providing  
2 search results in response to an ambiguous search query,  
3 the ambiguous search query including a sequence of  
4 ambiguous information components, the method comprising:  
5 receiving a sequence of ambiguous information  
6 components from a user associated with a language;  
7 obtaining mapping information that maps the  
8 ambiguous information components to less ambiguous  
9 information components;  
10 using the mapping information, in combination with a  
11 lexicon, to convert translate the sequence of ambiguous  
12 information components into one or more corresponding  
13 sequences of less ambiguous information components,  
14 wherein the lexicon is a list of sequences of less  
15 ambiguous information components that previously have  
16 been processed by a search engine as search queries;  
17 providing one or more of the sequences of less  
18 ambiguous information as an input to a search engine;  
19 obtaining search results from a the search engine;  
20 reordering the obtained search results using the  
21 language of the user; and  
22 presenting the reordered search results to the user,  
23 wherein the search results include references to Web page  
24 documents.